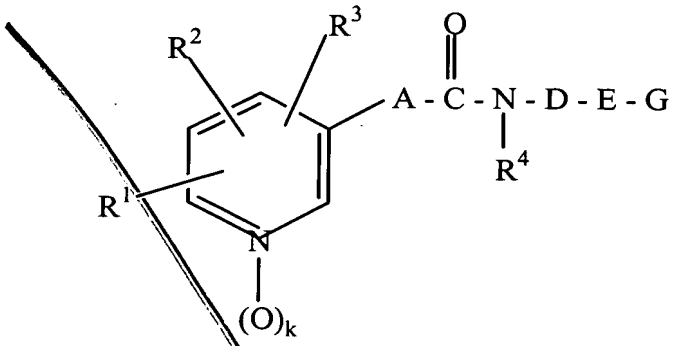
D1 cont B1



(I)

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^1 and R^2, if adjacent, may form a bridge selected from $-(CH_2)_4-$ and $-(CH=CH)_2-$ or $CH_2O-CR^7R^8-O-$, wherein
R^7 and R^8 are selected independently from each other from hydrogen and C_1-C_6-alkyl;

D' Cont B'

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a substituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

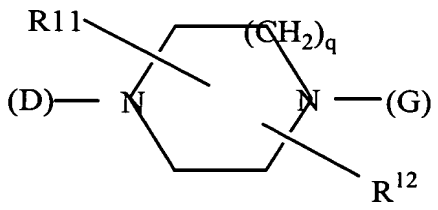
C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is

D1 cont B1



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

and wherein R^{11} and R^{12} may together form a C_1-C_3-alkylene bridge under formation of a bicyclic ring system;

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0, 1, 2 or 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

B' D' cont

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heterocycles are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage may occur either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage may occur either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen,

hydroxy, methyl, benzyl, and phenyl,

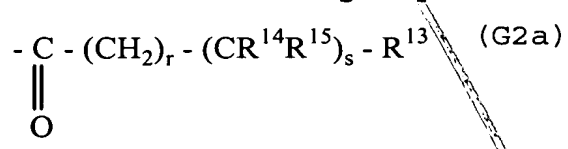
B' D' cont

monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the heterocycles are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

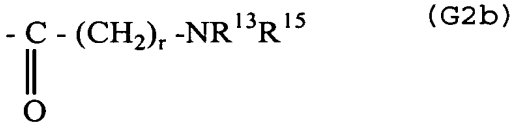
anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of



(G2a)

and



(G2b)

wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$ is a nitrogen containing heterocycle,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

B' D' cont

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

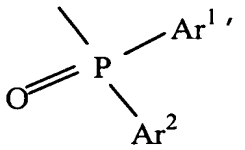
saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$

wherein r and R^{13} have the above meanings,

G^4 is



wherein

Ar^1 and Ar^2 are selected independently from each other

from the group consisting of phenyl, pyridyl and naphthyl,

G^5 is $-COR^{16}$

R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy,

wherein G is not $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$ (G1) when

R^{13} represents pyridyl or phenyl, which may be substituted by halogen, alkyl, alkoxy or trifluoromethyl,

R^{14} represents hydrogen or phenyl, which may be substituted by halogen, alkyl, alkoxy or trifluoromethyl,

R^{15} represents hydrogen,

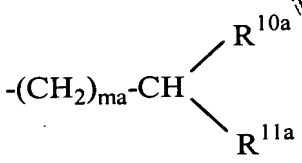
A represents alkylene, substituted ethenylene or butadienylene,

D represents alkylene or alkenylene,

E represents piperazine or homopiperazine, and

s is 1;

wherein G is not



phenyl, and N-containing heteroaryl when: R^{10a} is hydrogen or phenyl, R^{11a} is a phenyl or a pyridyl, and ma is an integer of 0 to 2; when

R^1 is hydrogen, a halogen, a C_1-C_6-alkyl, a C_1-C_6-alkoxy, a C_1-C_6-alkylthio, a C_3-C_8-cycloalkyloxy, a C_3-C_8-cycloalkylthio, a C_2-C_7-alkoxycarbonyl, carboxy, a phenyl, a phenoxy, a phenylthio, 3-pyridyloxy or 3-pyridylthio;

R^2 is hydrogen, a hydroxy, a C_1-C_7-alkanoyloxy or a C_2-C_7-alkoxycarbonyloxy, or when R^1 and R_2 are adjacent to each

other, they may combine to form tetramethylene or $-CH_2OCR^{8a}R^{9a}O-$, wherein R^{8a} and R^{9a} are the same or different and are each a C_1-C_6-alkyl;

R^3 is hydrogen, a C_1-C_6-alkyl or a hydroxy-C_1-C_6-alkyl;

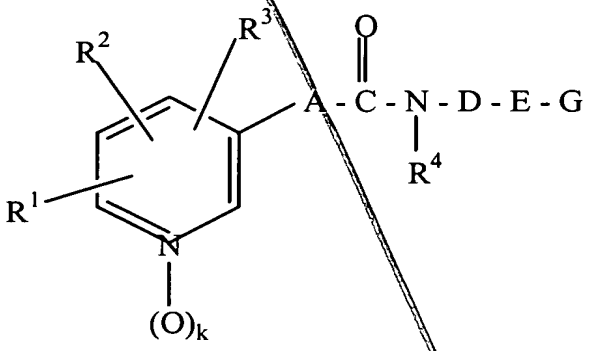
A is a C_1-C_6-alkylene or $-(CR^{6a}=CR^{7a})ra-$, wherein R^{6a} is hydrogen, a C_1-C_6-alkyl or a phenyl, R^{7a} is hydrogen, a C_1-C_6-alkyl, cyano or a phenyl, and ra is 1 or 2;

R^4 is hydrogen;

D is a C_1-C_{10}-alkylene or a C_4-C_{10}-alkylene interrupted by at least one double bond; and

E is selected from the group consisting of piperazine, piperazine, which is substituted by C_1-C_6-alkyl, homopiperazine, and homopiperazine, which is substituted by C_1-C_6-alkyl.

3. (Once amended) A compound according to formula (I)



(I)

wherein

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_4-alkoxy, benzyloxy, C_1-C_4-alkylthio, C_1-C_5-alkanoyloxy, C_1-C_4-alkylthio, C_2-C_5-

alkoxycarbonyl, aminocarbonyl, C_2-C_5-alkylaminocarbonyl, C_3-C_9-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, and NR^5R^6, wherein

B'

R' cont

R^5 and R^6 are selected independently of each other from hydrogen and C_1-C_6-alkyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, and C_1-C_4-alkoxy;

R^3 is selected from the group consisting of hydrogen, halogen and C_1-C_6-alkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C_1-C_6-alkylene,

a substituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and, the residue R^9, is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-acyl and methane sulfonyl;

1,2-cyclopropylene,

B1

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once to twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_3-alkyl or hydroxy;

C_4-C_{10}-alkenylene,

a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_3-alkyl or hydroxy;

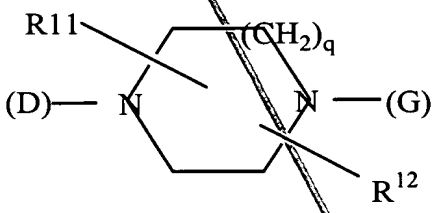
C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_3-alkyl or hydroxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, wherein one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein

R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_3-alkyl, hydroxy, hydroxymethyl, carboxy, and C_2-C_7-alkoxycarbonyl and

R^{12} is selected from the group consisting of hydrogen, and an oxo group adjacent to a nitrogen atom,

and wherein R^{11} and R^{12} may together form a C_1-C_3-alkylene bridge under formation of a bicyclic ring system;

G is selected from the group consisting of G1, G2, G3,

G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0, 1 or 2,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl; benzyl, phenyl;

monocyclic aromatic five or six-membered heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O, wherein the heterocycles are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O, wherein the linkage occurs either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected

independently thereof;

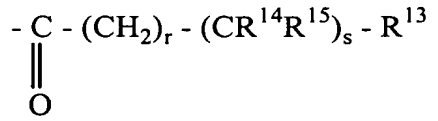
R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O, wherein the heterocycles are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogented ring and either directly or over a methylene group, and

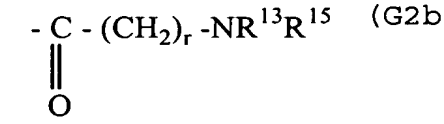
anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms can be selected from N, S and O and the linkage may occur either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group;

G^2 is selected from the group consisting of



(G2a)

and



(G2b)

wherein r, s and the substitutents R^{13} to R^{15} can have the

above meaning, or the group $-NR^{13}R^{15}$ is a nitrogen containing heterocycle,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom, the nitrogen-containing heterocycle selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered heterocycles,

saturated or unsaturated monocyclic, four to eight-membered heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

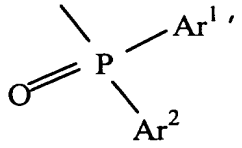
saturated or unsaturated bi- or tricyclic anellated or bridged heterocycles with 8 to 16 ring atoms, and

saturated or unsaturated bi- or tricyclic anellated or bridged heterocycles with 8 to 16 ring atoms that aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from the group consisting of N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$

wherein r and R^{13} have the above meaning,

G^4 is



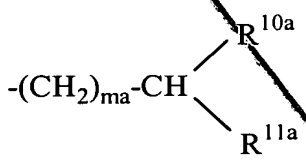
wherein

Ar^1 and Ar^2 are be selected independently from each other from the group consisting of phenyl, pyridyl and naphthyl,

G^5 is $-COR^{16}$

R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy,

wherein G is not



phenyl, and N-containing heteroaryl when: R^{10a} is hydrogen or phenyl, R^{11a} is a phenyl or a pyridyl, and ma is an integer of 0 to 2; when

R^1 is hydrogen, a halogen, a C_1-C_6-alkyl, a C_1-C_6-alkoxy, a C_1-C_6-alkylthio, a C_3-C_8-cycloalkyloxy, a C_3-C_8-cycloalkylthio, a C_2-C_7-alkoxycarbonyl, carboxy, a phenyl, a phenoxy, a phenylthio, 3-pyridyloxy or 3-pyridylthio;

R^2 is hydrogen, a hydroxy, a C_1-C_7-alkanoyloxy or a C_2-C_7-alkoxycarbonyloxy, or when R^1 and R_2 are adjacent to each other, they may combine to form tetramethylene or $-CH_2OCR^{8a}R^{9a}O-$, wherein R^{8a} and R^{9a} are the same or different and are each a C_1-C_6-alkyl;

R^3 is hydrogen, a C_1-C_6-alkyl or a hydroxy-C_1-C_6-alkyl;

A is a C_1-C_6-alkylene or $-(CR^{6a}=CR^{7a})ra-$, wherein R^{6a} is hydrogen, a C_1-C_6-alkyl or a phenyl, R^{7a} is hydrogen, a C_1-C_6-alkyl, cyano or a phenyl, and ra is 1 or 2;

R^4 is hydrogen;

D is a C_1-C_{10}-alkylene or a C_4-C_{10}-alkylene interrupted by at least one double bond; and

E is selected from the group consisting of piperazine, piperazine, which is substituted by C_1-C_6-alkyl, homopiperazine, and homopiperazine, which is substituted by C_1-C_6-alkyl.

4. (Twice amended) The compound according to claim 3, wherein

R^1 is selected from the group consisting of hydrogen, halogen, cyano, methyl, ethyl, trifluoromethyl, hydroxy, C_1-C_4-alkoxy, benzyloxy, C_1-C_5-alkanoyloxy, methylthio, ethylthio, methoxycarbonyl, terrt-butoxycarbonyl, aminocarbonyl, carboxy, phenoxy, and phenylthio,

R^2 is selected from the group consisting of hydrogen, halogen, trifluoromethyl and hydroxy;

R^3 is selected from the group consisting of hydrogen and halogen;

R^4 is selected from the group consisting of hydrogen, C_1-C_3-alkyl, allyl, hydroxy and C_1-C_5-alkoxy;

k is 0 or 1,

A is selected from the group consisting of C_1-C_6-alkylene,

a substituted C_1-C_6-alkylene which is substituted once or twice by C_1-C_3-alkyl, hydroxy or fluorine;

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group,

B1

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once or twice by C_1-C_3-alkyl, hydroxy or fluorine,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted by C_1-C_3-alkyl or one or two fluorine atoms;

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene which is substituted by fluorine,

D is selected from the group consisting of C_2-C_8-alkylene,

a substituted C_2-C_8-alkylene which is substituted once or twice by methyl or hydroxy;

C_4-C_8-alkenylene,

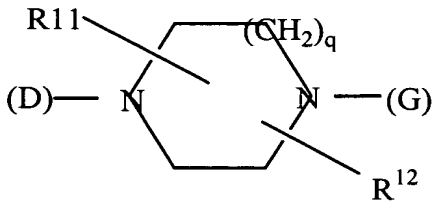
a substituted C_4-C_8-alkenylene which is substituted once or twice by methyl or hydroxy,

C_4-C_8-alkinylene,

a susbstituted C_4-C_8-alkinylene which is substituted once or twice by methyl or hydroxy; and

C_2-C_8-alkylene, C_4-C_8-alkenylene or C_4-C_8-alkinylene, wherein one to three methylene units are each isosterically replaced by O, S, NH, $N(CH_3)$, $N(COCH_3)$, $N(SO_2CH_3)$, CO, SO or SO_2,

E is



wherein

q is 1 or 2;

R^{11} is selected from the group consisting of hydrogen C_1-C_3-alkyl, hydroxymethyl, and carboxy,

R^{12} is selected from the group consisting of hydrogen and an oxo group adjacent to a nitrogen atom,

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 represents $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$,

r is 0, 1 or 2,

s is 0 or 1;

B1

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_8-cycloalkyl; benzyl, phenyl, benzcyclobutyl, indanyl, indenyl oxoindanyl, naphthyl, dihydronaphthyl, tetrahydronaphthyl, oxotetrahydronaphthyl, biphenylenyl, fluorenyl, oxofluorenyl, anthryl, dihydroanthyrl, oxodihydroanthryl, dioxodihydroanthryl, phenanthryl, dihydrophenanthryl, oxodihydrophenanthryl, dibenzocycloheptenyl, oxodibenzocycloheptenyl, dihydrodibenzocycloheptenyl, oxodihydrodibenzocycloheptenyl, dihydrodibenzocyclooctenyl, tetrahydrodibenzocyclooctenyl, oxotetrahydrodibenzocyclooctenyl bound directly over a methylene group,

furyl, thienyl, pyrrolyl, oxazolyl, isoxazolyl, thizolyl, isothiazolyl, pyrazolyl, imidazolyl, oxadiazolyl, thiadiazolyl, triazolyl, pyridyl,pyrazinyl, pyridazinyl, pyrimidinyl, triazinyl, imidazothiazolyl, benzofuryl, dihydrobenzofuryl, benzothienyl, dihydrobenzothienyl, indolyl, indolinyl, isoindolinyl, oxoindolinyl, dioxoindolinyl, benzoxazolyl, oxobenzooxaolinyl, benzooisoxazolyl, oxobenzoisoxazolinyl, benzothiazolyl, oxobenzthiazolinyl, benzoisothiazolyl, oxobenzoisothiazolinyl, benzoimidazolyl, oxobenzoimidazolinyl, indazolyl, oxoindazolinyl, benzofurazanyl, benzothiadiazolyl, benzotriazolyl, oxazolopridyl, oxodihydrooxazolopyridyl, thiazolopyridyl, oxodihydrooxazolopyridyl, thiazolopyridyl, oxodihydrothiazolopyridyl, isothiazolopyridyl, imidazopyridyl, oxodihydroimidazopyridyl, pyrazolopyridyl, oxodihydropyrazolopyridyl, thienopyrimidinyl, chromanyl, chromanonyl, benzopyranyl, chromonyl, quinoloyl, isoquinoloyl, dihydroquinolyl, oxodihydroquinolinyl, tetrahydroquinolyl,

B1

oxotetrahydroquinolinyl, benzodioxanyl, quinoxalinyl, quinazolinyl, naphthyridinyl, carbazolyl, tetrahydrocarbazolyl, acridinyl, oxodihydroacridinyl, phenanthridinyl, dihydrophenanthridinyl, oxodihyrophenanthridinyl, dibenzoisoquinolinyl, dihydrodibenzoisoquinolinyl, oxodihydrodibenzoisoquinolinyl, phenothiazinyl, dihydrodibenzooxepinyl, oxodihydrodibenzooxepinyl, benzocycloheptathienyl, oxobenzocycloheptathienyl, dihydrothienobenzothiepinyl, oxodihydrothienobenzothiepinyl, dihydrothienobenzothiepinyl, oxodihydrodibenzothiepinyl, octahydrodibenzothiepinyl, dibenzoazepinyl, dihydrodibenzoazepinyl, oxodihydrodibenzoazepinyl, ocathydrodibenzoazepinyl, benzocycloheptapyridyl, oxobenzocycloheptapyridyl, pyridobenzoazepinyl, dihydropyridobenzoazepinyl, oxodihydropyridobenzoazepinyl, dihydropyridobenzodiazepinyl, dihydrodibenzooxazepinyl, dihydropyridobenzooxepinyl, dihydropyridobenzooxazepinyl, oxodihydropyridobenzooxazepinyl, dihydropyridobenzothiazepinyl and oxodihydropyridobenzothiazepinyl bound directly or over a methylene group;

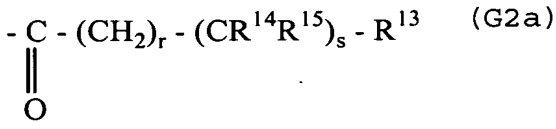
R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydroxy, methyl, benzyl, phenyl, indanyl, indenyl, naphthyl, dihydronaphthyl, tetrahydronaphthyl, furyl, thienyl, pyrrolyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl, pyrazolyl, imidazolyl, imidazolyl, oxadiazolyl, thiadiazolyl, triazolyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, triazinyl, benzofuryl, benzothienyl, indolyl, indolinyl, benzooxazolyl,

benzothiazolyl, benzoimidazolyl, chromanyl, quinolyl, and tetrahydroquinolyl bound directly or over a methylene group;

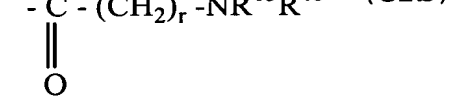
B1

G^2 is selected from the group consisting of



(G2a)

or



(G2b)

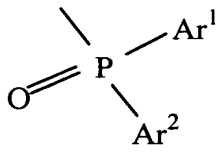
wherein r, s and the substitutents R^{13} to R^{15} have the above meaning, or the group $-NR^{13}R^{15}$ is selected from the group consisting of azetidine, pyrrolidine, piperidine, (1H)-tetrahydropyridine, hexahydroazepine, (1H)-tetrahydroazepine, octahydroazocine, pyrazolidine, piperazine, hexahydrodiazepine, morpholine, hexahydrooxazepine, thiomorpholine, thiomorpholin-1,1-dioxide, of 5-aza-bicyclo-[2.1.1]hexane, 2-aza-bicyclo[2.2.1]heptane, 7-aza-bicyclo-[2.2.1]heptane, 2,5-diaza-bicyclo[2.2.1]heptane, 2-aza-bicyclo[2.2.2]octane, 8-aza-bicyclo[3.2.1]octane, 2,5-diazabicyclo[2.2.2]octane, 9-aza-bicyclo[3.3.1]nonane, indoline, isoindoline, (1H)-dihydroquinoline, (1H)-tetrahydroquinolin, (2H)-tetrahydroisoquinoline,(1H)-tetrahydroquinoxaline, (4H)-dihydrobenzooxazine, (4H)-dihydrobenzothiazine, (1H)-tetrahydrobenzo[b]azepine, (1H)-tetrahydrobenzo[c]azepine, (1H)-tetrahydrobenzo[d]azepine, (5H)-tetrahydrobenzo[b]oxazepine, (5H)-tetrahydrobenzo [b]thiazepine, 1, 2, 3, 4-tetra-hydro-9H-pyrido [3,4-b]indole, (10H)-dihydroacridine, (10H)-dihydrophenanthridine, 1, 2, 3, 4-tetrahydroacridanone, (10H)-phenoxazine, (10H)-phenothiazine, (5H)-dibenzoazepine, (5H)-

dihydrodibenzoazepine, (5H)-octahydrodibenzoazepine, dihydrobenzo[d,e]isoquinoline, (5H)-dihydrodibenzodiazepine, (5H)-benzo[b]pyrido-[f]azepine, (5H)-Dihydrobenzo[b]pyrido[f]azepine, (11H)-Dihydrodibenzo[b,e]oxazepine, (11H)-dihydrodibenzo[b,e]thiazepine, (10H)-dihydrodibenzo[b,f]-oxazepine, (10H)-dihydrodibenzo[b,f]thiazepine, (5H)-tetrahydrodibenzoazocine, (11H)-dihydrobenzo[e]pyrido[b]-1,4-diazepin-6-one and (11H)-dihydrobenzo[b]pyrido[e]-1,4-diazepin-5-one,

G^3 is $-SO_2-(CH_2)_r-R^{13}$

wherein r and R^{13} have the above definition,

G^4 is



wherein

Ar^1 and Ar^2 are selected independently from each other from the group consisting of phenyl, pyridyl and naphthyl,

G^5 is $-COR^{16}$

R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy.

5. (Twice amended) The compounds according to claim 4, wherein

R^1 is selected from the group consisting of hydrogen, fluorine, chlorine, bormine, methyl, ethyl, trifluoromethyl, hydroxy, C_1-C_4-alkoxy, methylthio, ethylthio, carboxy and phenoxy;

B1

R^2 is selected from the group consisting of hydrogen, chlorine and methyl;

R^3 is selected from hydrogen;

R^4 is selected from the group consisting of hydrogen, C_1-C_3-alkyl and hydroxy,

k is 0,

A is selected from the group consisting of

C_2-C_6-alkylene,

a substituted C_2-C_6-alkylene which is substituted once or twice by hydroxy or fluorine,

C_2-C_6-alkylene, wherein a methylene unit is isosterically replaced by O, S or CO, wherein, with the exception of CO, the isosteric substitution cannot be adjacent to the amide group,

C_2-C_6-alkenylene,

a C_2-C_6-alkenylene which is substituted once or twice by C_1-C_3-alkyl or fluorine, and

C_4-C_6-alkadienylene;

D is selected from the group consisting of

C_2-C_8-alkylene,

B1 a substituted C_2-C_8-alkylene which is substituted by methyl or hydroxy;

C_4-C_8-alkenylene,

a substituted C_4-C_8-alkenylene which is substituted by hydroxy;

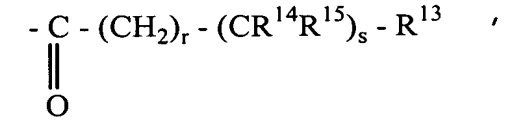
C_4-C_8-alkinylene,

a susbtituted C_4-C_8-alkinylene which is substituted by hydroxy; and

C_2-C_8-alkylene, C_4-C_8-alkenylene or C_4-C_8-alkinylene, wherein a methylene unit is isosterically replaced by O, S, NH, $N(CH_3)$, CO, or SO_2, or an ethylene group is isosterically replace by a group NH-CO or CO-NH, or a propylene group is isosterically replaced by a group NH-CO-O or O-CO-NH;

E is selected from the group consisting of piperazine, hexahydro-1,4-diazepine, and substituted piperazine and hexahydro-1,4-diazepine wherein the ring is substituted by one or two methylene groups or by an oxo group adjacent to a nitrogen atom;

G is selected from the group consisting of hydrogen, C_3-C_8-cycloalkyl, methoxycarbonyl, tert-butoxycarbonyl, benxyloxycarbonyl, trifluoroacetyl, diphenyl phosphinoyl, $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$,



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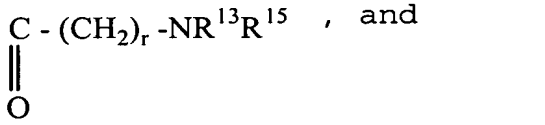


, and

r is 0 or 1,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, methyl, benzyl, phenyl, indanyl, indenyl, oxoindanyl, naphthyl, tetrahydronaphthyl, fluorenyl, oxofluorenyl, anthryl, dihydroanthryl, oxodihydroanthryl, dioxodihydroanthryl, phenanthryl, dihydrophenanthryl, oxodihydrophenanthryl, dibenzocycloheptenyl, dihydrodibenzocycloheptenyl, oxodihydrodibenzocycloheptenyl, bound directly over a methylene group, furyl, thienyl, oxazolyl, thiazolyl, imidazolyl, oxadiazolyl, pyridyl, pyrazinyl, pyrimidinyl, imidazothiazolyl, benzofuryl, benzothienyl, indolyl, indolinyl, oxoindolinyl, dioxoindolinyl, benzoxazolyl, oxobenzooxaolinyl, benzooisoxazolyl, oxobenzoisoxazolinyl, benzothiazolyl, oxobenzthiazolinyl, benzimidazolyl, oxobenzimidazolinyl, indazolyl, benzofurazanyl, benzothiadiazolyl, oxazolopridyl, oxodihydrooxazolopyridyl, imidazopyridyl, oxodihydroimidazopyridyl, chromanyl, chromanonyl, benzopyranyl, chromonyl, quinoloyl, isoquinoloyl, oxodihydroquinolinyl, tetrahydroquinolyl,

B'

oxotetrahydroquinolinyl, benzodioxanyl, quinazolinyl, carbazolyl, acridinyl, dihydroacridinyl, oxodihyroscridinyl, dibenzoisoquinolinyl, dihydrodibenzoisoquinolinyl, oxodihydrodibenzoisoquinolinyl, phenothiazinyl, dihydrodibenzooxepinyl, oxodihydrodibenzooxepinyl, benzocycloheptathienyl, oxobenzocycloheptathienyl, dihydrothienobenzothiepinyl, oxodihydrothienobenzothiepinyl, dihydrothienobenzothiepinyl, oxodihydrodibenzothiepinyl, octahydrodibenzothiepinyl, dibenzoazepinyl, dihydrodibenzoazepinyl, oxodihydrodibenzoazepinyl, ocathydrodibenzoazepinyl, benzocycloheptapyridyl, oxobenzocycloheptapyridyl, pyridobenzoazepinyl, dihydropyridobenzoazepinyl, oxodihydropyridobenzoazepinyl, dihydropyridobenzodiazepinyl, dihydrodibenzooxazepinyl, dihydropyridobenzooxepinyl, dihydropyridobenzooxazepinyl, oxodihydropyridobenzooxazepinyl, dihydropyridobenzothiazepinyl, and oxodihydropyridobenzothiazepinyl bound directly or over a methylene group,

R^{14} is selected from the group consisting of hydrogen, methyl, benzyl, and phenyl;

R^{15} is selected from the group consisting of hydroxy, methyl, benzyl, phenyl, naphthyl, tetrahydronaphthyl, furyl, thienyl, oxazolyl, thiazolyl, imidazolyl, benzofuryl, benzothienyl, indolyl, indolinyl, benzoxazolyl, benzothiazolyl, benzoimidazolyl, chromanyl, quinolyl, and tetrahydroquinolyl bound directly or over a methylene group;

wherein the group $-NR^{13}R^{15}$ represents a ring bound over the nitrogen of a residue from the series pyrrolidine, piperidine, hexahydroazepine, piperazine, hexahydrodiazepine,

thiomorpholine, 7-aza-bicyclo-heptane, 2,5-diaza-bicyclo heptane, indoline, isoindoline, (1H)-dihydroquinoline, (1H)-tetrahydroquinolin, (2H)-tetrahydroisoquinoline, (4H)-dihydrobenzooxazine, (4H)-dihydrobenzothiazine, (1H)-tetrahydrobenzoazepine, (1H)-tetrahydrobenzoazepine, (5H)-tetrahydrobenzoox-azepine, (5H)-tetrahydrobenzothiazepine, (10H)-dihydroacridine, 1,2,3,4-tetrahydroacridanone, (10H)-dihydrophenanthridine, (1H)-dihyrdobenzo-isoquinoline, (10H)-phenothiazine, (5H)-dibenzoazepine, (5H)-dihydrodibenzoazepine, (5H)-octahydrodibenzoazepine, dihydrobenzoisoquinoline, (5H)-dihydrodibenzoazepine, (5H)-dihydrodibenzodiazepine, (5H)-dihydrobenzoazepine, (11H)-dihydrodibenzooxazepine, (11H)-dihydrodibenzothiazepine, (10H)-dihydrodibenzo-oxazepine, (5H)-dihydrobenzopyridoazepine and (11H)-oxodihydrobenzopyridodiazepine, wherein

aromatic ring systems in the substitutents may be substituted independently from each other by one to three of the same or different groups selected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide in the case of two adjacent residues on the aromatic ring, and

wherein alkyl- alkenyl- and cycloalkyl residues in the groups G can be substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino).

6. (Twice amended) The compounds according to claim 5, wherein

B1

R^1 is selected from the group consisting of hydrogen, fluorine, methyl, trifluoromethyl, and ethylthio;

R^2, R^3 and R^4 are each hydrogen;

k is 0,

A is selected from the group consisting of ethylene, propylene and butylene,

a substituted ethylene, propylene and butylene which are each substituted by hydroxy, one or two fluorine atoms,

OCH_2,
SCH_2,
ethenylene, and
1,3-butadienylene;

D is selected from the group consisting of
C_2-C_6-alkylene,

a substituted C_2-C_6-alkylene which is substituted by hydroxy,

C_4-C_6-alkenylene,

C_4-C_6-alkinylene, and

C_2-C_6-alkylene, C_4-C_6-alkenylene or C_4-C_6-alkinylene, wherein one or two methylene units are isosterically replaced by O, NH, CO, or SO_2,

B1

E is piperazine or hexahydro-1,4-diazeazepine;

G is selected from the group consisting of phenyl, benzyl, phenethyl, diphenylmethyl, naphthyl, tetrahydroaphtyl, naphthylmethyl, fluorenyl, fluorenylmethyl, anthrylmethyl, dihydrodibenzo-cycloheptenyl, furylmethyl, thienylmethyl, thiazolylmethyl, pyridylmethyl, benzothienylmethyl, quinolylmethyl, phenylthienylmethyl, phenylpyridylmethyl, benzocycloheptapyridinyl, dihydrobenzocyclo-heptapyridinyl, dihydrodibenzooxepinyl, dihydrodibenzothiepinyl, dihydrodibenzoazepinyl, dihdrobenzopyridodiazepinyl formyl, acetyl, pivaloyl, phenylacetyl, diphenylacetyl, diphenylpropionyl, naphthylacetyl, benzoyl, naphthoyl, oxofluorenylcarbonyl, oxodihydroanthrylcarbonyl, dioxodihydroanthrylcarbonyl, furoyl, pyridylacetyl, pyridylcarbonyl, chromonylcarbonyl, quinolylcarbonyl, phenylylaminocarbonyl, naphthylaminocarbonyl, tetrahydronaphthylaminocarbonyl, dibenzylaminocarbonyl, benzylphenylaminocarbonyl, diphenylaminocarbonyl, indolinyl-N-carbonyl, isoindolin-N- carbonyl, tetrahydroquinolinyl-N-carbonyl, carbazolyl-N-carbonyl, tetrahydrobenzoazepinyl-N-carbonyl, dihydrodibenzoazepin-N-carbonyl, dihydrobenzopyridoazepinyl-N-carbonyl, oxodihydrobenzopyridoazepinyl-N-carbonyl, methanesulfonyl, toluenesulfonyl, naphthylsulfonyl, quinolinsulfonyl and diphenylphosphinoyl,

7. (Twice amended) The compound according to claim 3

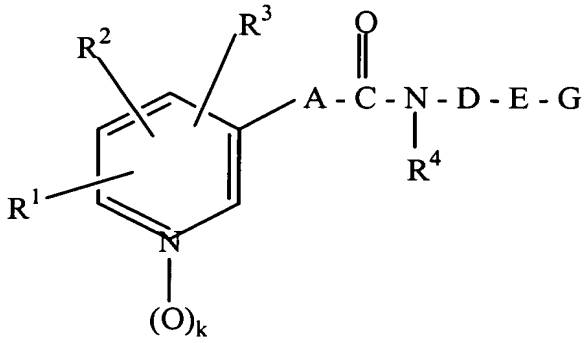
which is selected from the group consisting of N-[4-(4-diphenylmethylpiperazin-1-yl)-3-hydroxybutyl]-3-pyridin-3-yl-acrylamide; N-[3-(4-diphenylmethylpiperazin-1-yl)-propoxy]-3-pyridin-3-yl-acrylamide; N-[4-(4-diphenylmethylpiperazin-1-yl)-4-oxo-butyl]-3-pyridin-3-yl-acrylamide; N-[3-(4-diphenylmethylpiperazin-1-sulfonyl)-propyl]-3-pyridin-3-yl-acrylamide; N-{2-[2-(4-diphenylmethylpiperazin-1-yl)-ethoxy]-ethyl}-3-pyridin-3-yl-acrylamide; N-(4-{4-[bis-(4-fluorophenyl)-methyl]-piperazin-1-yl}-but-2-in-yl)-3-pyridin-3-yl-acrylamide; N-{4-[4-(4-carboxyphenyl-phenylmethyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-(4-{4-[(4-aminophenyl)-phenylmethyl]-piperazin-1-yl}-butyl)-3-pyridin-3-yl-acrylamide; N-{4-[4-(9H-fluoren-9-yl)-piperazin-1-yl]-butyl}-2-(pyridin-3-yloxy)-acetamide; N-{5-[4-(9H-fluoren-9-yl)-piperazin-1-yl]-penyl}-3-pyridin-3-yl-acrylamide; N-{6-[4-(9H-fluoren-9-yl)-piperazin-1-yl]-hexyl}-3-pyridin-3-yl-acrylamide; 3-pyridin-3-yl-N-{4-[4-(1,2,3,4-tetrahydronaphthalin-1-yl)-piperazin-1-yl]-butyl}-acrylamide; 3-pyridin-3-yl-N-{4-[4-(5,6,7,8-tetrahydronaphthalin-1-yl)-piperazin-1-yl]-butyl}-acrylamide; N-{4-[4-(naphthalin-1-yl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-[4-(4-biphenyl-2-yl)-butyl]-3-pyridin-3-yl-propionamide; N-[5-(4-biphenyl-2-yl-piperazin-1-yl)-pentyl]-3-pyridin-3-yl-acrylamide; N-[6-(4-biphenyl-2-yl-piperazin-1-yl)-hexyl]-3-pyridin-3-yl-acrylamide; N-[4-(4-biphenyl-2-yl-piperazin-1-yl)-butyl]-2-(pyridin-3-yloxy-acetamide; N-[4-(4-biphenyl-2-yl-piperazin-1-yl)-butyl]-5-(pyridin-3-yl)-penta-2,4-dienoic acid amide; N-{4-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-propionamide; N-{5-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-pentyl}-3-pyridin-3-yl-acrylamide; N-{6-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-

yl]-hexyl}-3-pyridin-3-yl-propionamide; N-{4-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-butyl}-5-(pyridin-3-yl)-penta-2,4-dienoic acid amide; N-{4-[4-(6,11-dihydro-dibenzo[b,e]oxepin-11-yl)-piperazin-1-yl]-butyl-3-pyridin-3-yl-propionamide; N-{2-[4-(6,11-dihydrodibenzo[b,e]thiepin-11-yl)-piperazin-1-yl]-ethyl}-3-pyridin-3-yl-acrylamide; N-[4-(4-diphenylacetyl-piperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide; N-[4-(4-benzoylpiperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide; N-{4-[4-(2-aminobenzoyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-{4-[4-(4-carboxybenzoyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-{4-[4-(biphenyl-2-carbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-{4-[4-(9-oxo-9H-fluoren-4-carbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-{4-[4-(furan-2-carbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-{4-[4-(naphthalin-1-yl-aminocarbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-propionamide; N-{4-[4-(diphenylaminocarbonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-{4-[4-(naphthalin-2-sulfonyl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide; N-[4-(4-diphenylphosphinoyl-piperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide; N-[4-(4-bipheny-2-yl-piperazin-1-yl)-butyl]-3-pyridin-3-yl-acrylamide; N-{4-[4-(9H-fluoren-9-yl)-piperazin-1-yl)-butyl}-3-pyridin-3-yl-acrylamide; and N-{4-[4-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)-piperazin-1-yl]-butyl}-3-pyridin-3-yl-acrylamide.

B1

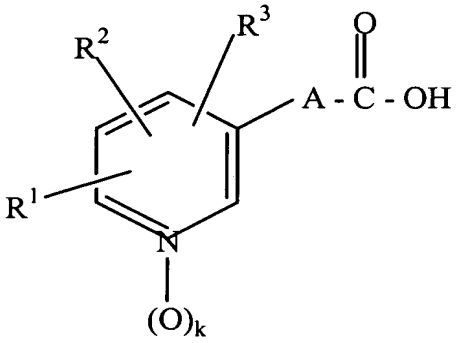
8. (Twice amended) A method for the production of compounds according to formula (I)

B1



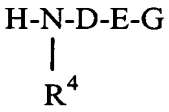
(I)

[(A))] wherein carboxylic acids of formula (II)



(I)

in which R1, R2, R3, A and k have the meaning given below or their respective derivatives are reacted with compounds of formula (III)



wherein D, E, and G and R4 are defined below in a form of the respective free base or the respective free acid addition salt at a temperature between about -40°C and about 180°C wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy,

C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^1 and R^2, if adjacent, may form a bridge selected from $-(CH_2)_4-$ and $-(CH=CH)_2-$ or $CH_2O-CR^7R^8-O-$, wherein
R^7 and R^8 are selected independently from each other from hydrogen and C_1-C_6-alkyl;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of
C_1-C_6-alkylene,

a substituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-

B1

alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

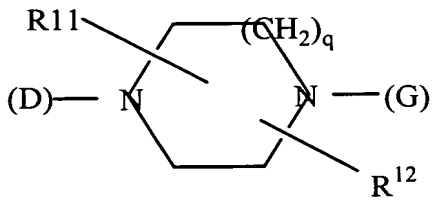
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-

alkoxycarbonyl,

B1

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

and wherein R^{11} and R^{12} may together form a C_1-C_3-alkylene bridge under formation of a bicyclic ring system;

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0, 1, 2 or 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heterocycles are

either bound directly or over a methylene group,

B'

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage may occur either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage may occur either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

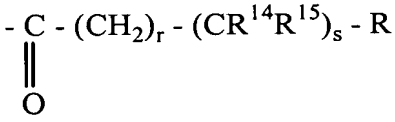
monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the heterocycles are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

B1

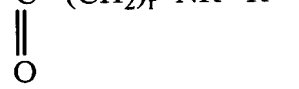
anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of



(G2a)

and



wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$ is a nitrogen containing heterocycle,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

saturated or unsaturated bi- or tricyclic anellated or

B1

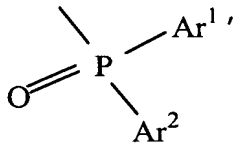
bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$

wherein r and R^{13} have the above meanings,

G^4 is



wherein

Ar^1 and Ar^2 are selected independently from each other from the group consisting of phenyl, pyridyl and naphthyl,

G^5 is $-COR^{16}$,

R^{16} is selected from the group consisiting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy.

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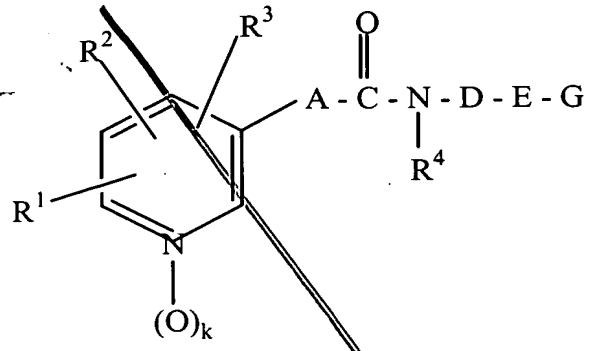
12. (twice amended) A pharmaceutical composition comprising the compound of formula (I)



(I)

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen,

halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

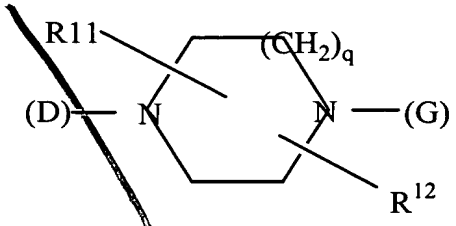
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



G^2

D^2 cont

wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0 to 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

B2 D2 cont

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and O,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of

$$-\overset{\overset{O}{\|}}{C}-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$$

and

$$-\overset{\overset{O}{\|}}{C}-(CH_2)_r-NR^{13}R^{15}$$

wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

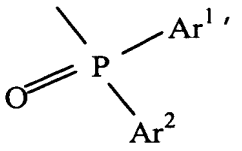
saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$ (G3)

wherein r and R^{13} have the above meanings,

G^4 is



wherein

Ar^1 and Ar^2 are selected independently from each other from phenyl, pyridyl or naphthyl,

G^5 is $-COR^{16}$ (G5)

R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy,

wherein G is not $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$ (G1) when

R^{13} represents pyridyl or phenyl, substituted by halogen, alkyl, alkoxy or trifluoromethyl,

R^{14} represents hydrogen or phenyl, substituted by halogen,alkyl, alkoxy or trifluoromethyl,

R^{15} represents hydrogen,

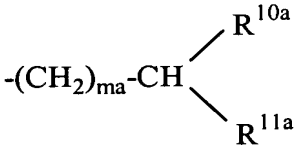
A represents alkylene, substituted ethenylene or butadienylene,

D represents alkylene or alkenylene,

E represents piperazine or homopiperazine, and

S is 1;

G is not



phenyl, and N-containing heteroaryl when: R^{10a} is hydrogen or phenyl, R^{11a} is a phenyl or a pyridyl, and ma is an integer of 0 to 2; when

R^1 is hydrogen, a halogen, a C_1-C_6-alkyl, a C_1-C_6-alkoxy, a C_1-C_6-alkylthio, a C_3-C_8-cycloalkyloxy, a C_3-C_8-cycloalkylthio, a C_2-C_7-alkoxycarbonyl,carboxy, a phenyl, a phenoxy, a phenylthio, 3-pyridyloxy or 3-pyridylthio;

R^2 is hydroxy, a C_1-C_7-alkanoyloxy or a C_2-C_7-alkoxycarbonyloxy, or when R^1 and R_2 are adjacent to each

other, they may combine to form tetramethylene or $-CH_2OCR^{8a}R^{9a}O-$, wherein R^{8a} and R^{9a} are the same or different and are each a C_1-C_6-alkyl;

R^3 is hydrogen, a C_1-C_6-alkyl or a hydroxy-C_1-C_6-alkyl;

A is a C_1-C_6-alkylene or $-(CR^{6a}=CR^{7a})ra-$, wherein R^{6a} is hydrogen, a C_1-C_6-alkyl or a phenyl, R^{7a} is hydrogen, a C_1-C_6-alkyl, cyano or a phenyl, and ra is 1 or 2;

R^4 is hydrogen;

D is a C_1-C_{10}-alkylene or a C_4-C_{10}-alkylene interrupted by at least one double bond; and

E is selected from the group consisting of piperazine, piperazine, which is substituted by C_1-C_6-alkyl, homopiperazine, and homopiperazine, which is substituted by C_1-C_6-alkyl.

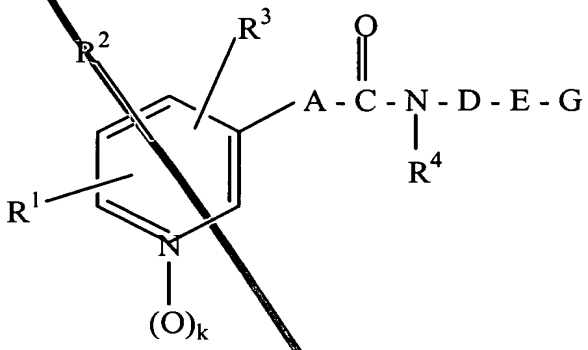
14. (twice amended) The pharmaceutical composition according to claim 12, wherein the pharmaceutical composition is present in a solid, peroral administrable form as a tablet, capsule, coated tablet, or as a liquid, peroral administration solution, suspension, effervescent tablet, in the form of tabs or sachets, which may be in the form of a suitable injection or infusion preparation together with suitable pharmaceutically acceptable carriers and adjuvants, in the form of a concentrate, powder or lyophilisate, in the form of a transdermal therapeutic system for systemic treatment, in the form of a gastrointestinal therapeutic system (GITS) for systemic treatment, in the form of a salve, suspension, emulsion, a balm or plaster or in the form of an externally applicable solution, in the form of a rectal, genital, or transurethral administration emulsion, a solution, a liposomal solution, an implant, suppository or a capsule, in the form of a composition capable of being applied nasally, otologically

or ophthalmologically, or in a buccally applicable form.

24. The pharmaceutical composition according to claim 12, wherein a dosage unit for single administration contains about 0.001 to about 5000 mg active ingredient.

PLEASE ADD THE FOLLOWING NEW CLAIMS:

32. A pharmaceutical composition comprising the compound of formula (I)



(I)

wherein

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_4-alkoxy, benzyloxy, C_1-C_4-alkylthio, C_1-C_5-alkanoyloxy, C_1-C_4-alkylthio, C_2-C_5-alkoxycarbonyl, aminocarbonyl, C_2-C_5-alkylaminocarbonyl, C_3-C_9-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from hydrogen and C_1-C_6-alkyl;

R^2 is selected from the group consisting of hydrogen,

halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, and C_1-C_4-alkoxy;

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R^3 cont

R^3 is selected from the group consisting of hydrogen, halogen and C_1-C_6-alkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C_1-C_6-alkylene,

a substituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and, the residue R^9, is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_1-C_6-acyl and methane sulfonyl;

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once to twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_3-alkyl or hydroxy;

C_4-C_{10}-alkenylene,

a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_3-alkyl or hydroxy;

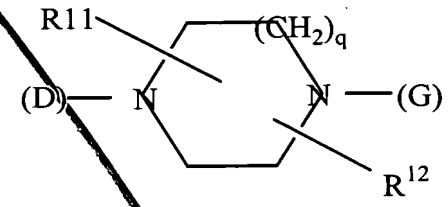
C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_3-alkyl or hydroxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, wherein one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein

R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_3-alkyl, hydroxy, hydroxymethyl, carboxy, and C_2-C_7-alkoxycarbonyl and

R^{12} is selected from the group consisting of hydrogen, and an oxo group adjacent to a nitrogen atom,

and wherein R^{11} and R^{12} may together form a C_1-C_3-alkylene bridge under formation of a bicyclic ring system;

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0, 1 or 2,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl; benzyl, phenyl;

monocyclic aromatic five or six-membered heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O, wherein the heterocycles are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O, wherein the linkage occurs either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O, wherein the heterocycles are

either bound directly or over a methylene group,

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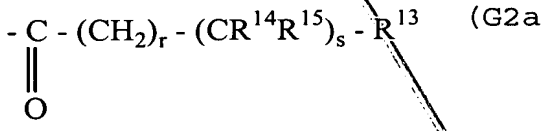
anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogented ring and either directly or over a methylene group, and

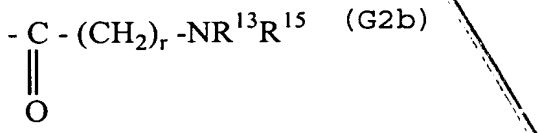
anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms can be selected from N, S and O and the linkage may occur either over an aromatic ring or a hydrogenated ring and either directly or over a methylene group;

G^2 is selected from the group consisting of



(G2a)

and



(G2b)

wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$ is a nitrogen containing heterocycle,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom, the nitrogen-containing heterocycle selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-

membered heterocycles,

saturated or unsaturated monocyclic, four to eight-membered heterocycles which aside from the essential nitrogen atom contain one or two further hetero-atoms selected from the group consisting of N, S and O,

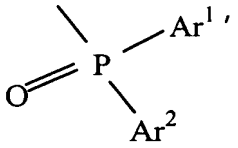
saturated or unsaturated bi- or tricyclic anellated or bridged heterocycles with 8 to 16 ring atoms, and

saturated or unsaturated bi- or tricyclic anellated or bridged heterocycles with 8 to 16 ring atoms that aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from the group consisting of N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$

wherein r and R^{13} have the above meaning,

G^4 is



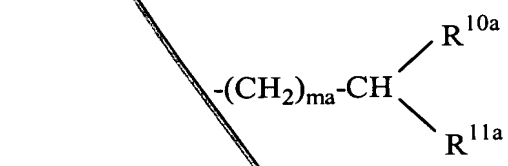
wherein

Ar^1 and Ar^2 are be selected independently from each other from the group consisting of phenyl, pyridyl and naphthyl,

G^5 is $-COR^{16}$

R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy,

wherein G is not



phenyl, and N-containing heteroaryl when: R^{10a} is hydrogen or phenyl, R^{11a} is a phenyl or a pyridyl, and ma is an integer of 0 to 2; when

R^1 is hydrogen, a halogen, a C_1-C_6-alkyl, a C_1-C_6-alkoxy, a C_1-C_6-alkylthio, a C_3-C_8-cycloalkyloxy, a C_3-C_8-cycloalkylthio, a C_2-C_7-alkoxycarbonyl, carboxy, a phenyl, a phenoxy, a phenylthio, 3-pyridyloxy or 3-pyridylthio;

R^2 is hydrogen, a hydroxy, a C_1-C_7-alkanoyloxy or a C_2-C_7-alkoxycarbonyloxy, or when R^1 and R_2 are adjacent to each other, they may combine to form tetramethylene or $-CH_2OCR^{8a}R^{9a}O-$, wherein R^{8a} and R^{9a} are the same or difference and are each a C_1-C_6-alkyl;

R^3 is hydrogen, a C_1-C_6-alkyl or a hydroxy-C_1-C_6-alkyl;

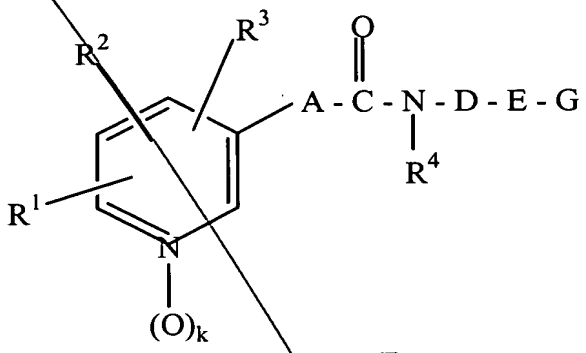
A is a C_1-C_6-alkylene or $-(CR^{6a}=CR^{7a})ra-$, wherein R^{6a} is hydrogen, a C_1-C_6-alkyl or a phenyl, R^{7a} is hydrogen, a C_1-C_6-alkyl, cyano or a phenyl, and ra is 1 or 2;

R^4 is hydrogen;

D is a C_1-C_{10}-alkylene or a C_4-C_{10}-alkylene interrupted by at least one double bond; and

E is selected from the group consisting of piperazine, piperazine, which is substituted by C_1-C_6-alkyl, homopiperazine, and homopiperazine, which is substituted by C_1-C_6-alkyl.

33. A method of inhibiting tumor cell growth in a human or animal body comprising administering to the human or animal body in need thereof an amount of a pharmaceutical composition effective for inhibiting tumor cell growth, wherein the pharmaceutical composition includes a compound of general formula (I)



(I)

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen,

halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine,

cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

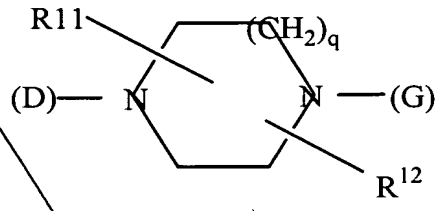
C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced

by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0 to 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

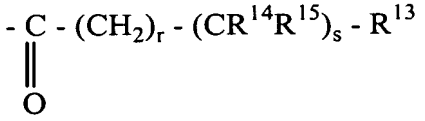
R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

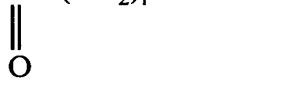
anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of



and



wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

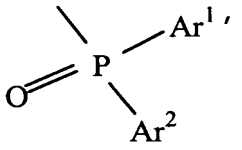
saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$ (G3)

wherein r and R^{13} have the above meanings,

G^4 is



wherein

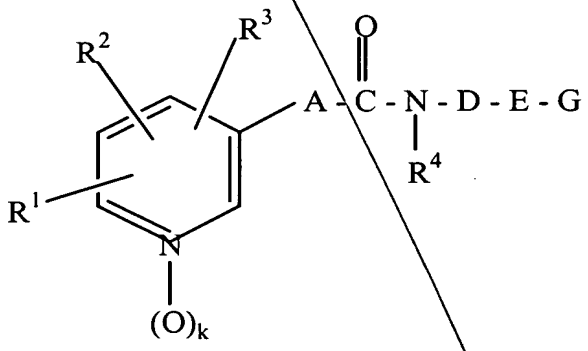
Ar^1 and Ar^2 are selected independently from each other

from phenyl, pyridyl or naphthyl,

G^5 is $-COR^{16}$

R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy.

34. A method of suppressing autoimmune diseases in a human or animal body comprising administering to the human or animal body in need thereof an amount of a pharmaceutical composition effective for suppressing autoimmune reactions, wherein the pharmaceutical composition includes a compound of general formula (I)



(I)

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy,

phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

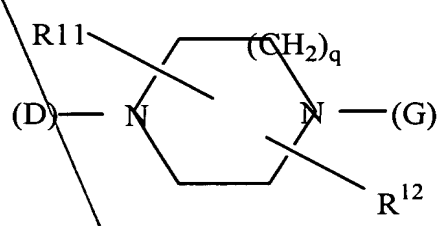
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0 to 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

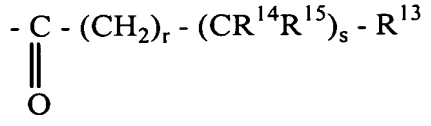
R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

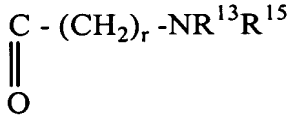
anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of



and



wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

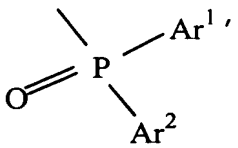
saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$ (G3)

wherein r and R^{13} have the above meanings,

G^4 is



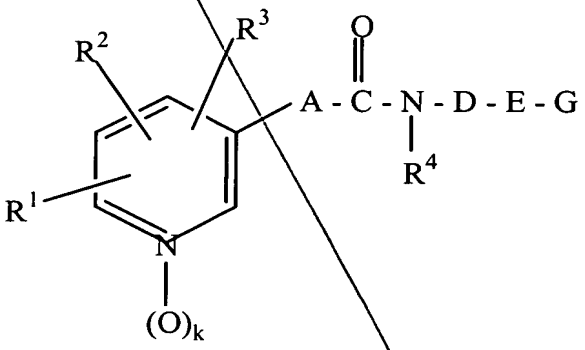
wherein

Ar^1 and Ar^2 are selected independently from each other from phenyl, pyridyl or naphthyl,

G^5 is $-COR^{16}$

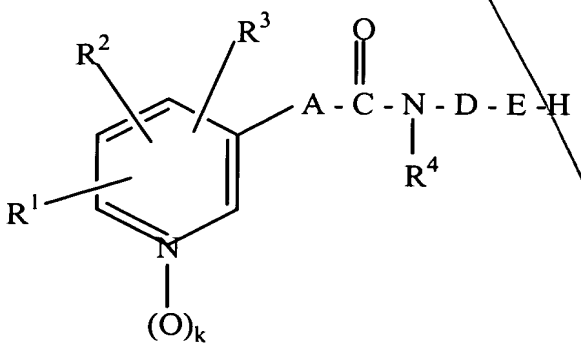
R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy.

35. A method for production of compounds according to formula (I)



(I)

wherein compounds of a formula



are reacted with a compound of formula (IV)

L - G (IV)

wherein G is not hydrogen and is defined below, and L is a leaving group selected from the group consisting of alcohol, chlorine, bromine, iodine, sulfonic acid ester, methanesulfonyloxy, trifluoromethanesulfonyloxy, ethanesulfonyloxy, benzensulfonyloxy, p-toluenesulfonyloxy, p-bromobenzenesulfonyloxy, m-nitrobenzenesulfonyloxy, and a terminal epoxide group,

wherein the reaction occurs in an inert solvent at a temperature between about 0°C and about 180°C.,

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

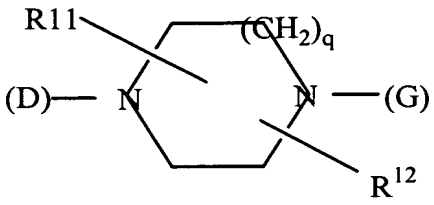
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0 to 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

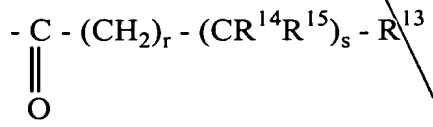
monocyclic aromatic five or six-member heterocycles,

which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

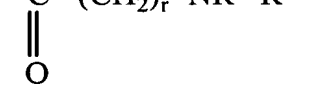
anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of



and



wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

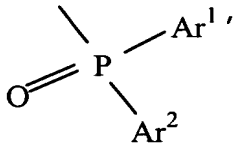
saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$ (G3)

wherein r and R^{13} have the above meanings,

G^4 is



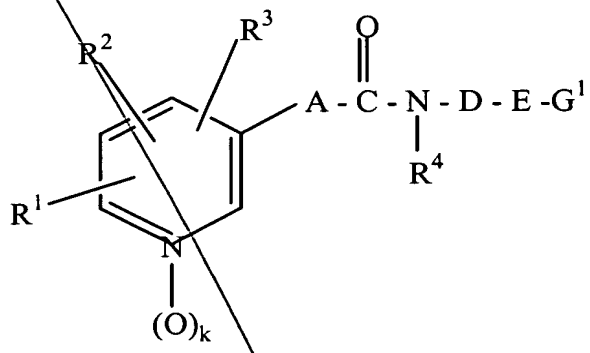
wherein

Ar^1 and Ar^2 are selected independently from each other from phenyl, pyridyl or naphthyl,

G^5 is $-COR^{16}$

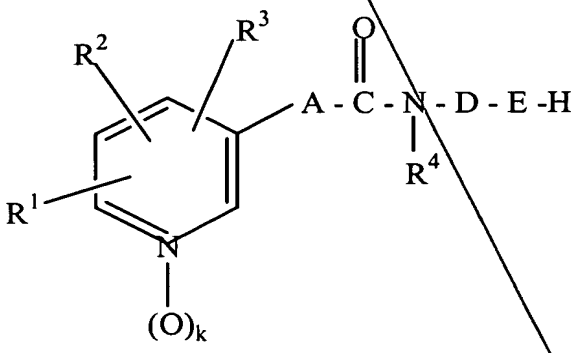
R^{16} is selected from the group consisting of trifluoromethyl, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, and benzyloxy.

36. A method for production of compounds according to formula (I)



(I)

wherein compounds of a formula



are reacted with a compound of formula (IV)

L - G (IV)

wherein G is selected from the group consisting of alkyl, alkenyl, alkinyl, cycloalkyl, aryl, aralkyl, heteroaryl and heteroaralkyl,

wherein L is a leaving group selected from the group consisting of alcohol, chlorine, bromine, iodine, sulfonic

acid ester, methanesulfonyloxy, trifluoromethanesulfonyloxy, ethanesulfonyloxy, benzensulfonyloxy, p-toluenesulfonyloxy, p-bromobenzenesuflonyloxy, m-nitrobenzenesulfonyloxy, and a terminal epoxide group,

wherein the reaction occurs in an inert solvent at a temperature between about 0°C and about 180°C.,

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

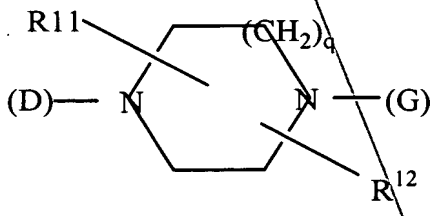
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0 to 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

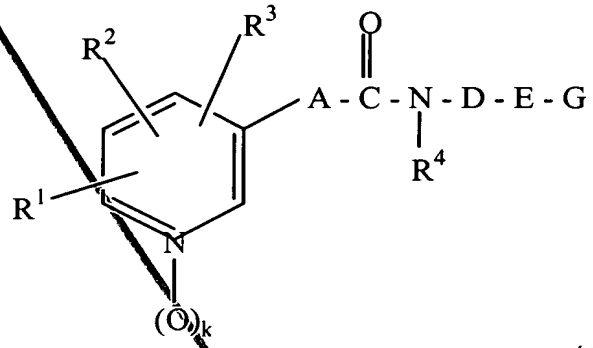
monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring

atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group.

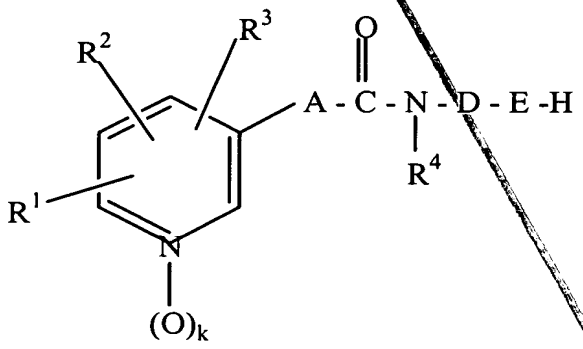
37. A method for production of compounds according to formula (I)



(I)

wherein G is selected from the group consisting of an acyl residue, a carbamoyl residue, a sulfonyl residue and a phosphinoyl residue,

wherein compounds of a formula



are reacted with a compound of formula (V)

HO - X (V)

wherein X is selected from the group consisting of acyl residues, carbamoyl residues, sulfonyl residues, phosphinoyl residues, and their reactive derivatives,

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

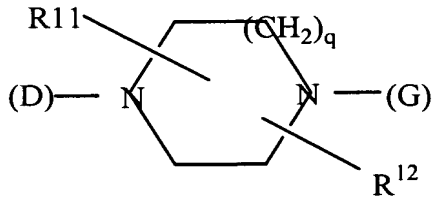
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



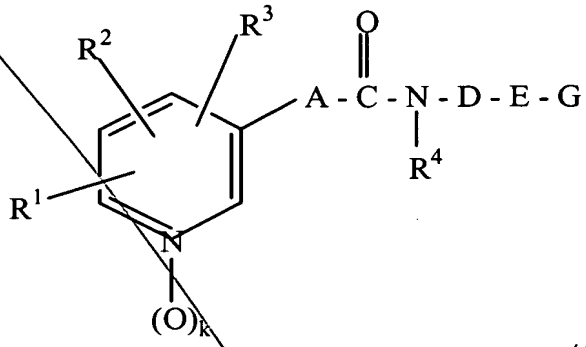
wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

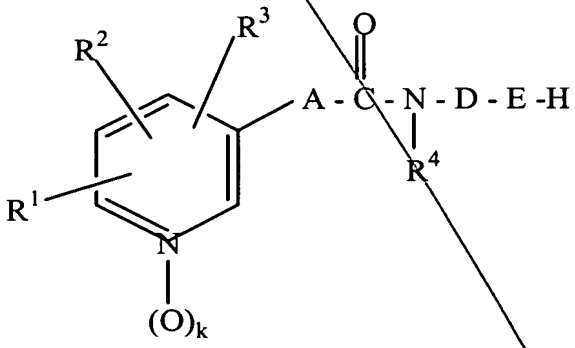
R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom.

38. A method for production of compounds according to formula (I)



(I)

wherein compounds of a formula



are reacted with a carbonyl group transmitter to an intermediate product which is reacted with a primary or secondary amine having the formula (VI)

$H\text{-}NR^{13}R^{15}$ (VI)

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

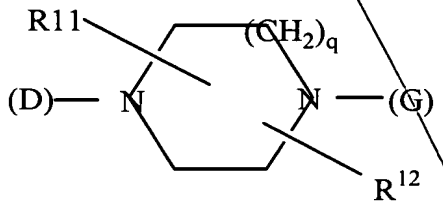
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

wherein G is $-\overset{\overset{O}{\|}}{C}-(CH_2)_r-NR^{13}R^{15}$

wherein r = 0,

R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and O,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either

directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

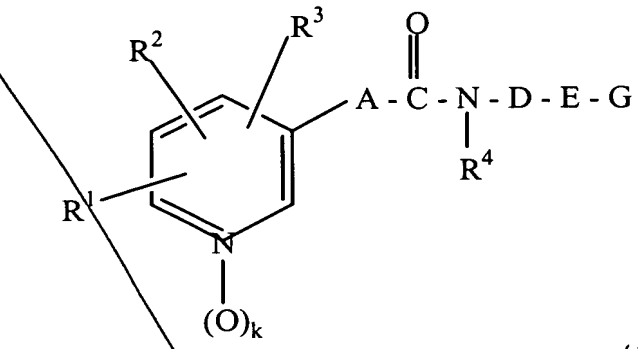
R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

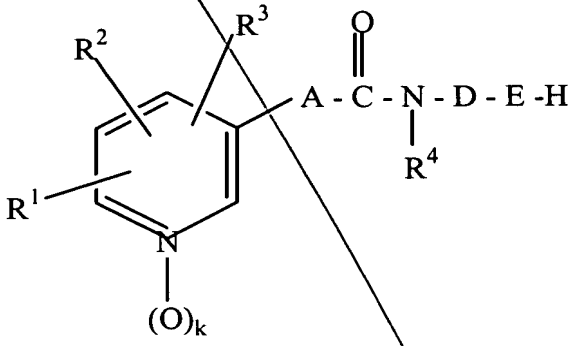
anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group.

39. A method for production of compounds according to formula (I)



(I)

wherein compounds of a formula



are reacted with a compound of formula (VII)

$$O=C=N-R^{13} \quad (VII)$$

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy,

phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

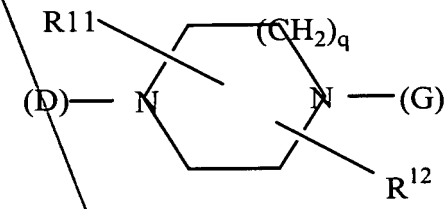
a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



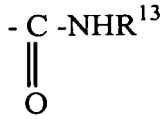
wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

wherein G is



R^{13} is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group.

40. The pyridylalkane, pyridylalkene and pyridylalkine carboxamindes of formula (I) of claim 2 wherein aromatic ring systems in the substituents R^1, R^2, R^4, R^5, R^6, R^{13}, R^{14}, R^{15}, R^{16}, Ar^1 and Ar^2 and/or in the ring system $-NR^{13}R^{15}$ may be substituted independently from each other by one to three of the same or different groups slected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide for two adjacent residues on the aromatic ring, and wherein

alkyl- alkenyl- and cycloalkyl residues in the groups G^1, G^2, and G^3 are substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino), their cis- and trans-isomers E- and Z-isomers, diastereomers and other isomers as well as their racemic or non-racemic mixtures and the corresponding endo- and exo-isomers when the ring system E is bicyclic, their tautomers; their acid addition salts and their hydrates and solvates.

41. The compound of formula (I) of claim 3 wherein aromatic ring systems in the substituents R^1, R^2, R^4, R^5, R^6, R^{13}, R^{14}, R^{15}, R^{16}, Ar^1 and Ar^2 and/or in the ring system $-NR^{13}R^{15}$ may be substituted independently from each other by one to three of the same or different groups slected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-

C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide for two adjacent residues on the aromatic ring, and wherein

alkyl- alkenyl- and cycloalkyl residues in the groups G^1, G^2, and G^3 are substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino).

42. The pharmaceutical composition of claim 12 aromatic ring systems in the substituents R^1, R^2, R^4, R^5, R^6, R^{13}, R^{14}, R^{15}, R^{16}, Ar^1 and Ar^2 and/or in the ring system $-NR^{13}R^{15}$ may be substituted independently from each other by one to three of the same or different groups slected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide for two adjacent residues on the aromatic ring, and wherein

alkyl- alkenyl- and cycloalkyl residues in the groups G^1, G^2, and G^3 are substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino).

43. The pharmaceutical composition of claim 32 aromatic ring systems in the substituents R^1, R^2, R^4, R^5, R^6, R^{13}, R^{14}, R^{15}, R^{16}, Ar^1 and Ar^2 and/or in the ring system $-NR^{13}R^{15}$ may be substituted independently from each other by one to three of the same or different groups slected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl,. C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide for two adjacent residues on the aromatic ring, and wherein

alkyl- alkenyl- and cycloalkyl residues in the groups G^1, G^2, and G^3 are substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino).

44. The method of claim 33 wherein aromatic ring systems in the substituents R^1, R^2, R^4, R^5, R^6, R^{13}, R^{14}, R^{15}, R^{16}, Ar^1 and Ar^2 and/or in the ring system $-NR^{13}R^{15}$ may be substituted independently from each other by one to three of the same or different groups slected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide for two adjacent residues on the aromatic ring, and wherein

alkyl- alkenyl- and cycloalkyl residues in the groups G^1,

G^2, and G^3 are substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino).

45. The method of claim 34 wherein aromatic ring systems in the substituents R^1, R^2, R^4, R^5, R^6, R^{13}, R^{14}, R^{15}, R^{16}, Ar^1 and Ar^2 and/or in the ring system $-NR^{13}R^{15}$ may be substituted independently from each other by one to three of the same or different groups slected from the group consisting of halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, C_3-C_8-cycloalkyl, phenyl, benzyl, hydroxy, C_1-C_6-hydroxyalkyl, C_1-C_6-alkoxy, C_1-C_6-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1-C_6-alkylthio, carboxy, C_2-C_7-carboxyalkyl, C_2-C_7-carboxyalkenyl, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, mono-C_1-C_6-alkylamino, di-(C_1-C_6-alkyl)-amino and, methylene dioxide for two adjacent residues on the aromatic ring, and wherein

alkyl- alkenyl- and cycloalkyl residues in the groups G^1, G^2, and G^3 are substituted by one or two of the same or different groups which are selected from the group consisting of hydroxy, carboxy, C_2-C_7-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C_1-C_6-alkylamino and di-(C_1-C_6-alkyl-amino).

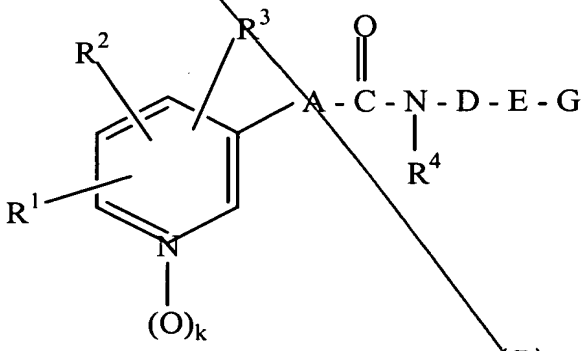
46. The pharmaceutical composition of claim 24 wherein a dosage unit for a single administration contains about 0.001 to about 2.0 mg active ingredient.

47. The pharmaceutical composition of claim 24 wherein a dosage unit for a single administration contains about 0.01 to about 2.0 mg active ingredient.

48. The pharmaceutical composition of claim 24 wherein a

dosage unit for a single administration contains about 0.1, 1, 2, 5, 10, 20, 25, 30, 50, 100, 200, 300, 500, 600, 800, 1000, 2000, 3000, 4000 to about 5000 mg active ingredient.

49. A method of inhibiting colon, lung, liver and leukemia tumor cell growth in a human or animal body comprising administering to the human or animal body in need thereof an amount of a pharmaceutical composition effective for inhibiting colon, lung, liver and leukemia tumor cell growth, wherein the pharmaceutical composition includes a compound of general formula (I)



(I)

wherein:

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_2-C_6-alkinyl, trifluoromethyl, C_3-C_8-cycloalkyl, C_1-C_6-hydroxyalkyl, hydroxy, C_1-C_6-alkoxy, C_3-C_6-alkenyloxy, C_3-C_6-alkinyloxy, benzyloxy, C_1-C_7-alkanoyloxy, C_2-C_7-alkoxycarbonyloxy, C_1-C_6-alkylthio, C_3-C_6-alkenylthio, C_3-C_6-alkinylthio, C_3-C_8-cycloalkyloxy, C_3-C_8-cycloalkylthio, C_2-C_7-alkoxycarbonyl, aminocarbonyl, C_2-C_7-alkylaminocarbonyl, C_3-C_{13}-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^5R^6, wherein

R^5 and R^6 are selected independently of each other from

the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6-alkyl, trifluoromethyl, hydroxy, C_1-C_6-alkoxy, benzyloxy and C_1-C_7-alkanoyloxy;

R^3 is selected from the group consisting of hydrogen, halogen, C_1-C_6-alkyl, trifluoromethyl and C_1-C_6-hydroxyalkyl;

R^4 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_6-cycloalkyl, hydroxy, C_1-C_6-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of

C_1-C_6-alkylene,

a susbstituted C_1-C_6-alkylene which is substituted one to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, or phenyl,

C_2-C_6-alkylene, in which a methylene unit is isosterically replaced by O, S, NR^9, CO, SO or SO_2, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^9 is selected from the group consisting of hydrogen, C_1-C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_1-C_6-acyl and C_1-C_6-alkanesulfonyl,

1,2-cyclopropylene,

C_2-C_6-alkenylene,

a substituted C_2-C_6-alkenylene which is substituted once to three-fold by C_1-C_3-alkyl, hydroxy, C_1-C_3-alkoxy, fluorine, cyano or phenyl,

C_4-C_6-alkadienylene,

a substituted C_4-C_6-alkadienylene which is substituted once or twice by C_1-C_3-alkyl, fluorine, cyano or phenyl;

1,3,5-hexatrienylene,

a 1,3,5-hexatrienylene which is substituted by C_1-C_3-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of C_2-C_{10}-alkylene,

a substituted C_2-C_{10}-alkylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

C_4-C_{10}-alkenylene,

a substituted C_4-C_{10}-alkenylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy;

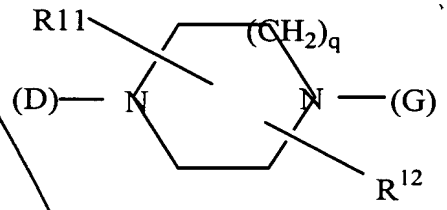
C_4-C_{10}-alkinylene,

a substituted C_4-C_{10}-alkinylene which is substituted once or twice by C_1-C_6-alkyl, hydroxy, or C_1-C_6-alkoxy; and

C_2-C_{10}-alkylene, C_4-C_{10}-alkenylene or C_4-C_{10}-alkinylene, in

which one to three methylene units are isosterically replaced by O, S, NR^{10}, CO, SO, or SO_2, wherein R^{10} has the same meaning as R^9, but is selected independently thereof;

E is



wherein

q is 1, 2, or 3;

R^{11} is selected from the group consisting of hydrogen C_1-C_6-alkyl, hydroxy, hydroxymethyl, carboxy, or C_2-C_7-alkoxycarbonyl,

R^{12} is selected from the group consisting of hydrogen, C_1-C_6-alkyl and an oxo group adjacent to a nitrogen atom,

G is selected from the group consisting of G1, G2, G3, G4, and G5, wherein

G^1 is $-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$

r is 0 to 3,

s is 0 or 1,

R^{13} is selected from the group consisting of hydrogen, C_1-

C_6-alkyl, C_3-C_6-alkenyl, C_3-C_6-alkinyl, C_3-C_8-cycloalkyl,

saturated or unsaturated four to eight-membered heterocycles,

saturated or unsaturated four to eight-membered heterocycles which contain one or two hetero-atoms selected from the group consisting of N, S and 0,

benzyl, phenyl,

monocyclic aromatic five or six-membered heterocycles,

monocyclic aromatic five or six-membered heterocycles which contain one to three hetero-atoms selected from the group consisting of N, S and O where the heter-atoms and are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage can occur either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

R^{14} has the same meaning as R^{13}, but is selected independently thereof;

R^{15} is selected from the group consisting of hydrogen, hydroxy, methyl, benzyl, and phenyl,

monocyclic aromatic five or six-member heterocycles, which contain one to three hetero-atoms selected from the group consisting of N, S and O and wherein the hetero-atoms are either bound directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein the linkage occurs either over an aromatic or a hydrogenated ring and either directly or over a methylene group,

anellated bi- and tricyclic aromatic or partially hydrogenated heterocyclic ring systems with 8 to 16 ring atoms and at least one aromatic ring, wherein one to three ring atoms are selected from the group consisting of N, S and O and the linkage occurs either over an aromatic ring or a hydrated ring and either directly or over a methylene group,

G^2 is selected from the group consisting of

$$-\overset{\overset{O}{\|}}{C}-(CH_2)_r-(CR^{14}R^{15})_s-R^{13}$$

and

$$-\overset{\overset{O}{\|}}{C}-(CH_2)_r-NR^{13}R^{15}$$

wherein r, s and the substitutents R^{13} to R^{15} can have the above meaning, or the group $-NR^{13}R^{15}$,

wherein $-NR^{13}R^{15}$ is a nitrogen-containing heterocycle bound over the nitrogen atom selected from the group consisting of

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles,

saturated or unsaturated monocyclic, four to eight-membered nitrogen-containing heterocycles which, aside from the essential nitrogen atom, contain one or two further hetero-atoms selected from the group consisting of N, S and O,

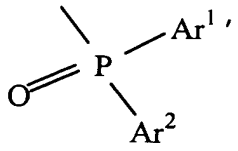
saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms,

saturated or unsaturated bi- or tricyclic anellated or bridged nitrogen-containing heterocycles with 8 to 16 ring atoms which aside from the essential nitrogen atom, contain one or two further hetro-atoms that are selected from N, S and O;

G^3 is $-SO_2-(CH_2)_r-R^{13}$ (G3)

wherein r and R^{13} have the above meanings,

G^4 is



wherein

Ar^1 and Ar^2 are selected independently from each other